76032

CRUISE REPORT

VIBRACORE SAMPLING

EASTERN RHODE ISLAND SOUND

AND

VINEYARD SOUND

MASSACHUSETTS

RESEARCH VESSEL - ANNANDALE

CRUISE ANN-8-76

AUGUST 24 - SEPTEMBER 6, 1976

Rec'd 29 NOV 76
ROSCOP 29 NOV 76

U. S. Geological Survey
Office of Marine Geology
Woods Hole, Massachusetts
02543

C. J. O'Hara

Introduction

A vibracore sampling program, under contract with Woodward-Clyde Consultants, was conducted in eastern Rhode Island Sound and Vineyard Sound, Massachusetts by the U.S. Geological Survey during August 24th through September 6, 1976. The offshore investigation is part of continuing marine geologic program, funded jointly by the Department of Public Works of the Commonwealth of Massachusetts and the U.S. Geological Survey, Office of Marine Geology, Woods Hole. The coring program was carried out aboard the Research Vessel ANNANDALE under Captain Gary Van Tassel and Woods Hole, Mass. served as port of operation.

Objectives

The vibracore sampling program is intended to determine the nature of the bottom sediments and shallow substrate of the inner shelf. The core data will be correlated with subbottom seismic profiling data to determine the distribution, lithology and economic importance of offshore geologic features and mineral resources. In addition, these studies will document important landmark data, help to evaluate the feasibility and environmental conditions of offshore mining of mineral deposits and offshore disposal of solid waste material, and provide information on the geology and geologic history of the region.

Shipboard Systems

The following systems were in operation during the sampling program:

Vibracoring Rig

Large Capacity Air Compressor

Epsco Loran-C Receiver

Epsco Loran-C Repeator

Specifications on vibracoring rig:

Penetration capability - 40 feet (12 m)

Diameter of core sample - 3.5 inches (9 cm)

Minimum water depth for operation - 35 feet (11 m)

Maximum water depth for operation - 225 feet (67 m)

Personnel

The following personnel participated over the course of the sampling program:

Charles J. O'Hara	Scientist-in-charge
Robert N. Oldale	Geologist - U.S.G.S., Woods Hole
Wayne M. Ferrebee	Geologist - " " "
Jack McLane	Geologist " " "
Ralph Lewis	Geologist " " "
Scott Briggs	Student - W.H.O.I./M.I.T. joint program, Woods Hole
James Austin	Student - " " "
Albert Stockel	Field Supervisor - Woodward-Clyde Consultants

Statistics

Scheduled ship time - 8 days

Actual ship time - 14 days

Working days at sea - 8 days

Down-time equipment malfunction - 6 days

Stations cored - 16 17

Total core feet obtained - 294 (90 m)

Table 1 gives listing of stations vibracored

Figure 1 shows area of investigation and vibracore locations

TABLE 1: TABULATION OF CORING SITES AND ANCILLARY DATA

STATION #	CORE #	LOCATION LAT.	LOCATION LONG.	WATER DEPTH (Feet)	PENETRATION/RECOVERY (Feet)
14A	4750	41°24.50'N	70°44.32'W	72	38/22
22C	4751	41°24.00'N	70°50.22'W	52	23/13
22E	4752	41°22.40'N	70°54.90'W	89	16/8
11A	4753	41°20.67'N	70°54.94'W	98	23/20
7E	4754	41°19.00'N	70°55.30'W	105	38/33
6D	4755	41°17.72'N	70°52.30'W	98	10/9
10D	4756	41°14.60'N	70°55.60'W	102	18/17
27A	4757	41°15.20'N	70°57.90'W	125	18/17
10F	4758	41°16.20'N	70°57.35'W	115	16/15
10G	4759	41°18.15'N	70°59.50'W	105	15/14
11D	4760	41°17.36'N	71°03.75'W	121	30/30
23A	4761	41°14.50'N	71°07.46'W	144	ABORTED
7A	4762	41°27.55'N	71°04.90"W	52	29/26
7C	4763	41°23.63'N	71°00.40'W	92	26/19
20B	4764	41°22.10'N	70°52.00'W	85	29/15
5B	4765	41°26.60"N	70°43.30'W	39	7/6
1A	4766	41°29.55'N	70°39.60'W	75	30/30

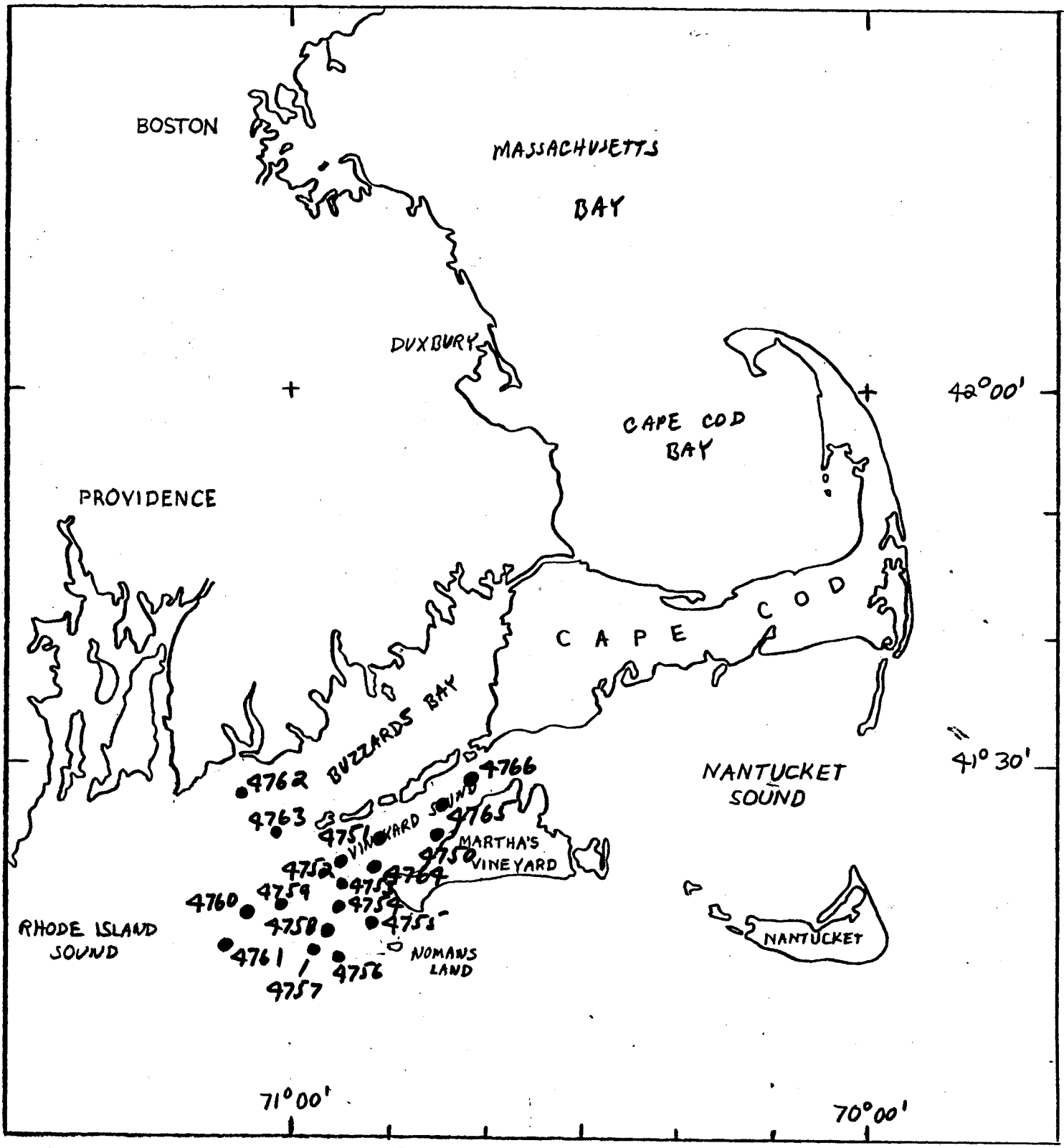
BOSTON
MASSACHUSETTS
BAY
DUXBURY
CAPE COD
BAY
42°00'
PROVIDENCE
CAPE COD
BUZZARDS BAY
NANTUCKET
SOUND
41°30'
4762
4766
4763
4765
4751
VINEYARD SOUND
MARTHA'S
VINEYARD
4752
4750
4764
4759
4760
4753
4754
RHODE ISLAND
SOUND
4758
4755
4761
4756
NOMANS
LAND
4757
NANTUCKET
71°00'
70°00'
NAUTICAL MILES
0 5 10 15 20
KILOMETERS
0 10 20 30 40

FIGURE 1